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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/724,588 | 11/28/2003 | Laurence B. Boucher | ALA-025 | 9422 |

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| EXAMINER | |
|---|---|
| LIN, WEN TAI | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2154 | |

DATE MAILED: 01/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/724,588 | BOUCHER ET AL. | |
| | Examiner | Art Unit | |
| | Wen-Tai Lin | 2154 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *17 November 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-8,10-14 and 16-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,10-14 and 16-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11/17/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

1. Claims 1-8, 10-14 and 16-42 are presented for examination.

2. The text of those sections of Title 35, USC code not included in this action can be found in the prior Office Action.

3. The rejection of claim 28 under the judicially created doctrine of obviousness-type double patenting is withdrawn because of the added features in claim 17, on which claim 28 is depended.

### *Claim Rejections - 35 USC § 102*

4. Claims 1-8, 10-14, 16-27, 29-40 and 42 are rejected under 35 U.S.C. 102(e) as being anticipated by Bennett et al. [U.S. Pat. No. 6345302].

5. As to claim 1, Bennett teaches the invention as claimed including: a system for communication by a local host that is connectable by a network to a remote host, the system comprising:

a communication processing device (CPD) [2000, Fig.3, which is an Internet accelerator] that is integrated into the local host to connect the network and the local host, said CPD including hardware configured to analyze Internet Protocol (IP) and Transmission Control

Protocol (TCP) headers of network packets [Abstract; col.15, lines 52-61; i.e., verify the TCP checksum, which is entered in a field of the header (see 322, Fig.7)]; and

a central processing unit (CPU) [10, Fig.3] running protocol processing instructions in the local host to create a TCP connection between the local host and the remote host [col.4, lines 44-50], said CPU providing to said CPD a media-access control (MAC) address, an IP address and a TCP port that correspond to said connection [e.g., col.16, lines 19-35; i.e., by default the CPD must obtain from CPU a copy of a media-access control (MAC) address (which is required for link and physical layers), an IP address (which is required for network layer) and a TCP port (which is required for transport layer) so as to independently process the acknowledgement packet and other activities within the network card (see also col.11, line 33 – col.12 line 20, wherein, e.g., MAC address is used in Ethernet environment)],

wherein said CPD and said CPU are configured such that a message transferred between the network and the local host is generally processed by said CPD instead of said CPU when said CPD controls said connection and said message corresponds to said connection [col.4, lines 60-65; col.12, lines 21-37; col.16, lines 4-35; col.21, lines 4-37; i.e., when a system uses network card 2000 (of Fig.3) to replace the related processing that is otherwise handled by TCP/IP software, the message related to TCP ACK is totally processed at the CPD].

6. As to claims 2-3, Bennett further teaches that said CPU provides to said CPD an address in local host memory for storing or retrieving application data from said message [col.8, lines 24-32; note that the DMA controller must obtain an address from the CPU (via device driver) in order to perform necessary data movement].

7. As to claim 4, Bennett further teaches that said CPD is connected to said CPU by a bus [37, Fig.3].

8. As to claim 5, Bennett further teaches that said CPD includes a microprocessor [col.9, lines 37-43].

9. As to claims 6-7, Bennett further teaches that said CPD is connected to an input/output (I/O) controller [col.8, lines 2-11].

10. As to claim 8, Bennett teaches that the system further comprises a memory that is disposed in said host and accessible by said CPU and said CPD [e.g., 114, Fig.3].

11. As to claim 10, Bennett further teaches that said CPD is integrated with a peripheral component interconnect (PCI) bridge [e.g., two PCI bridges 9080 are integrated with the network processor in Fig.9].

12. As to claim 11, Bennett further teaches that said CPD is integrated with a memory controller for said CPU [e.g., 926, 928, Fig.9; col.9, lines 44-52].

13. As to claim 12, Bennett further teaches that said CPD is integrated with an I/O controller [e.g., 912, 914, Fig.9] and a memory controller [926, 928, Fig.9] for said CPU.

14. As to claim 13, The system of claim 1, wherein said CPD is connected with an I/O controller that connects said CPD to a memory controller for said CPU [Fig.9; col.24, lines 13-64].

15. As to claim 14, Bennett further teaches that said CPD is connected to a hub interface bus that connects a memory controller to an I/O controller [e.g., 30, Fig.3; col.5, lines 11-18].

16. As to claim 16, Bennett further teaches that said message is received from the network by the local host [col.21, lines 3-37; note that the message in this passage is transferred from the remote node].

17. As to claims 17-27 and 29-40, since the features of these claims can also be found in claims 1, 4-6, 8, 10-14 and 16, they are rejected for the same reasons set forth in the rejection of claims 1, 4-6, 8, 10-14 and 16 above.

*18.* As to claim 42, Bennett further teaches that said second network packet is received from the network by the local host [i.e., as described in the comments relating to the rejection of claim 1 or 17, in a similar manner a remote node may send an acknowledgement signal, which is received by the local CPD without involvement of the local CPU].

***Claim Rejections - 35 USC § 103***

19. Claims 28 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bennett et al. (hereafter "Bennett")[U.S. Pat. No. 6345302], as applied to claims 1-8, 10-14, 16-27, 29-40 and 42 above, further in view of Jolitz et al.(hereafter "Jolitz")[U.S. Pat. No. 6173333].

20. As to claim 28, Bennett does not specifically teach using an ownership bit disposed in the local host to designate whether said CPU or said CPD controls said connection.

However, in the same field of endeavor, Jolitz teaches a bypass mechanism for incoming/outgoing TCP/IP packets to bypass a TCP/IP accelerator under various conditions [e.g., col.5, lines 44-53; col.6, lines 1-8].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement a bypass route for Bennett's network processor for non-TCP/IP packets (or when the network processor is unavailable) because Bennett's network processor is dedicated for portions of TCP/IP processing and the bypass route would facilitate the CPU's take over of the entire TCP/IP processing. Note that a bypass route is typically implemented by controlling a switching circuit with a control signal (i.e., an ownership bit).

21. As to claim 41, since the features of this claim can also be found in claims 17, 28 and 30, it is rejected for the same reasons set forth in the rejection of claims 17, 28 and 30 above.

22. Applicant's arguments with respect to claims 1-8, 10-14 and 16-42 on 11/17/2005 have been considered but they are not deemed to be persuasive.

Specifically, Applicant argues that:

(i) Bennett's network card (e.g., 2000, Fig.3 or 9) does not control the TCP connection, because col.16, lines 19-35 cited that the fields used to generate an ACK are "taken from the protocol logic state ..." which shows that the protocol logic state is maintained and controlled elsewhere.

(ii) Claims 30 and 42 contains different limitations (e.g., classifying a second network packet) has not been specifically rejected.

(iii) In the 103 rejection of claims 28 and 41, the feature of "ownership bit" has not been addressed. That is the obviousness is not found in the absence of "any specific hint or suggestion in a particular reference".

23. The examiner respectfully disagrees with Applicant's arguments:

(i) It is noted that both TCP logic 93 and protocol logic 45 are part of Bennett's network card 2000 (see Fig.4).

(ii) It is submitted that all the limitations of claim 30 can be found in claims 1 or 17 because the phrase "classifying a second network packet as corresponding to said connection" only singles out a second network packet that corresponds to the connection (i.e., not all packets corresponding to the connection are classified as second network packets). The ACK packet cited from claim 1 or 17 is a second network packet that corresponds to the connection. As to

claim 42, the office action simply states that an ACK packet (i.e., a second network packet) received by the local host is processed at Bennett's network card without passing up to the CPU.

(iii) As to claims 28 and 41: the "ownership bit" is an obvious implementation of Jolitz's bypassing mechanism be providing a switching element with a control signal (i.e., ownership bit).

24. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

25. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

## *Conclusion*

**Examiner note:** Examiner has cited particular columns and line numbers in the references as applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to the specific limitations within the

individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the contest of the passage as taught by the prior art or disclosed by the Examiner.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wen-Tai Lin whose telephone number is (571)272-3969. The examiner can normally be reached on Monday-Friday(8:00-5:00).

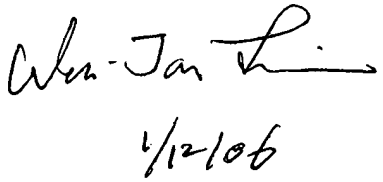
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (571)272-3964. The fax phone numbers for the organization where this application or proceeding is assigned are as follows:

(571) 273-8300 for official communications; and

(571) 273-3969 for status inquires draft communication.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Wen-Tai Lin



January 12, 2006

1/12/06